

# PATENT ABSTRACTS OF JAPAN

(11) Publication number : 2001-069591

(43) Date of publication of application : 16.03.2001

(51) Int.Cl. H04R 1/32  
H04R 1/26  
H04R 5/02

(21) Application number : 11-242970

(71) Applicant : YAMAHA CORP

(22) Date of filing : 30.08.1999

(72) Inventor : MASUDA KATSUHIKO  
SAWARA MICHIYOSHI

## (54) DIRECTIONAL LOUDSPEAKER

### (57) Abstract:

**PROBLEM TO BE SOLVED:** To realize a directional loudspeaker with a simple configuration, where sound is hardly heard or a sound of other contents is heard depending on an area over a wide range of sounds.

**SOLUTION:** In this directional loudspeaker, a midrange loudspeaker and a woofer 5a, 5b are placed side by side at an interval of 1/8 to one wavelength of emitted sound wave and emit a sound wave which includes medium and low sound frequency components of 1st channel and 2nd channel acoustic signals A, B. A sound source controller SC including an acoustic signal control circuit 2 is inserted between both acoustic signal sources (A, B) and both the loudspeakers 5a, 5b, so as to cancel each channel component emitted from both the loudspeakers by the interference of the sound waves in different areas in an acoustic space. Directional array tweeters 9a, 9b emit high sound frequency components of the 1st and 2nd channel acoustic signals A, B via high-pass filters 6a, 6b, power amplifiers 7a, 7b and distribution circuits 8a, 8b.

